

MEDICAL SCIENCE

IN ITS GENERAL ASPECTS AND STUDY.

A LECTURE DELIVERED AT GUY'S HOSPITAL,

AT THE OPENING OF THE SESSION 1859-60.

BY

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“Nunquam aliud natura, aliud sapientia dicit.”

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GENTLEMEN,

IN the performance of the duty of this day, I am deeply sensible of my own inability, and ask your indulgence. A few years ago, I occupied the same benches as the youngest among you ; and if it be any advantage to have recently passed through the pleasant labours of a student's life, it is that the stand-point from which I have to view your entrance to professional work is less in advance of your own than that of many of my colleagues, and the feelings of my student's life have not had time to become fairly obliterated. In the name of my colleagues, I welcome you to Guy's—those of you who are first treading its threshold, and those who are this day returning to another session of earnest work.

Varied are the aspects and relations of the Medical profession. How differently is it viewed by those who regard it from without, and those who are engaged in its active duties ! The former know little of its difficulties ; they praise or blame according to their physical frames, at one time giving to it unmeasured approval, at another attaching to the whole the misdeeds of any recreant member. The latter, who are within its sphere, who have spent years of labour amongst its ranks, and are learners in it still, have presented to their minds a retrospect of varied pleasures and disappointments, scenes of interest and sources of deep satisfaction, many phases of human character in its suffering and distress, its weakness and dignity, its sympathies and common bonds of nature. Such a view cannot be realized by you, who are only about to commence its study ; vague ideas have perhaps been formed, some pleasing pictures drawn, and the grave reali-

ties of its daily duties anticipated. As with other things, distance may give a colouring that is incorrect, an outline that is imperfectly defined ; but withal truth is, I doubt not, combined with the peculiar thoughts you each entertain of the profession you have chosen. Some select it, that they may acquire position and distinction ; others that they may obtain wealth or a competency in life—one chooses it from the desire to explore its depths of knowledge, another that he may be the means of benefiting his fellow-men.

The review of the past indicates that many *have* found the healing art the source of honour ; one and another have risen to eminence among men, have received honourable distinction, and their names are recorded on the page of history. Their discoveries stand forth as fixed landmarks amidst confusion and tumult ; their names are ever before us ; like mountain-tops, catching the first gleam of sunlight, they stand out in bold outline at the commencement of the journey and throughout its course ; the rude blasts of scorn and contempt pass by them unheeded, whilst others are well-nigh overwhelmed. Fame obtained as the reward of a lasting benefit conferred upon mankind has enduring laurels, and is worth your ardent aspirations. Any additional light in the investigation, the diagnosis, or the treatment of disease, is remembered long after its author has ceased to labour ; and the right use of those means which are now at the disposal of every practitioner in medicine and surgery, may procure a position of well-founded regard, and even the highest status in society. There are subjects as yet imperfectly known ; diseases of which very little is really ascertained ; and if, by your observations and suggestions suffering is mitigated, disease prevented or shortened in its duration, or science advanced, you will earn for yourselves well-merited fame.

In connexion with Guy's there are those whose names stand high as having advanced the science and practice of the profession, enhanced its usefulness, developed better modes of cure, and unravelled the obscurities of disease. Need I mention Sir Astley Cooper or Aston Key in extending the science of anatomy and pathology, and improving the practice of surgery ; or of Maracet, Hughes, Golding Bird, and still more, one who since we met on a similar occasion has departed from our midst,—

Bright,—whose patient researches have given as great an impetus to the study of renal, as Laennec to that of thoracic disease ; and wherever men know anything of the science of Medicine, there Bright's disease will be remembered, and with his name that of Guy's be honoured.

But even at the commencement of your path honour is before you : we have lately seen how, by talent and untiring industry, one of you, whose name I must mention, Charles Hilton Fagge, has outstripped his competitors in every race ; and clustering round him, his Guy's brethren have followed in the same track. Another, almost within reach of the goal in his energy, sank low ;

“Nursing the pinion which impelled the steel,”

he has left a monument of a student's determination ; he would have stood high in the ranks ; he has passed away, followed by the esteem and respect of all who knew him.

Have you chosen your profession as a means of acquiring wealth ? you will probably be mistaken. If you labour with industry and perseverance, with energy of life and purpose, with the possession of ordinary sound medical knowledge, you will succeed in obtaining a competency, if not wealth ; but you will not have entered the full responsibility of your profession, before, if at all worthy of it, you will find far high and nobler purposes stir your inmost nature. The thoughts of your own mere pecuniary advancement will be lost in the desire to search for truth, to extend knowledge, to relieve suffering, and to prolong life. It is *no new* thing for a student of Guy's to sacrifice his personal comfort, that he may watch at the bed-side of patients, and tend them during the hours of night ; and amidst the desolate homes of the poor, he has often supplied their wants from his own resources, rewarded perhaps by seeing life prolonged, and health restored, always by the conscious satisfaction, which no money can give, of having done a noble and benevolent action.

Both in its own sphere, and equally in collateral subjects, few sciences afford such mental gratification as that of Medicine. Its daily work and investigations afford new pleasure and endless variety, and these increase at every step. The circle widens as the power of observation is enlarged. The study of animal

or vegetable life, the laws of chemistry, the beauty of mechanical arrangement, the harmony of the sciences and of all the works of God in the things around, above, or beneath us, the balance of animal or vegetable life, the constant changes in nature, but its uniform character, adapting it to our condition and comfort, and the terrible consequences of the infraction of those laws under which we are placed, afford subjects of intense interest.

As to other professions, the Law has greater worldly distinction. Wealth and the coronet are amongst its rewards ; for the rights of property are more highly regarded than the restoration or maintenance of health. The profession of arms receives like high honour, and its deeds are commemorated by a grateful country ; but its course is one in which injury, pain and death are necessary attendants ; its fame is purchased by the loss of friends ; and the surgeon is asked to mitigate the horrors it has evoked, and soothe its pangs. It is a bright picture to turn from the field of Alma, and witness the benevolent determination of one risking his own personal safety, and even his life, to attend alone and unprotected, those against whom his countrymen had been engaged in mortal conflict. What devotion to suffering fellow-man must he have had, who volunteered his services to the “Eclair,” a mere pest-house, yellow-fever spreading among its crew, and at last numbering him amongst its victims !

There is a nobility in the profession which gives ample scope to the loftiest nature. It is benevolent in its character, arduous in its work, self-denying in its labour, but ever having a reward in itself, namely, the consciousness of fulfilling a high duty,—the mitigation of pain and disease, whilst it exercises and develops the highest faculties of man’s being. It may often be said with truth,

“The reward
Is in the race we run, not in the prize.”

The pleasure of performing a noble and benevolent action, is a greater prize than human praise or pecuniary benefit. There is a deep sense of pleasure in the discovery of truth, but with increasing satisfaction does the mind press onward to find fresh truth ; and as in health, vigorous exercise, whilst conferring

enjoyment, maintains the living mechanism and increases its power; so there is no profession which gives greater scope than that of Medicine to the attainment of the highest condition of man, and at the same time promotes his truest happiness.

As a means of doing good, then, shall we regard it, in the extent of its influence, in the value of the life it strives to save, or in the effect on a man's own nature, quickening his mind to exertion, animating his best feelings and purposes, stimulating his senses to closer observation, and rousing in him the consciousness of independent thought and action? In helping others, he does good to himself. Shall we study its benefits in the mitigation and prevention of disease,—in diminishing the spread of contagion, and ameliorating its effects,—in improving the health of the community at large, or saving one valued life,—in the detection of crime,—in promoting the extension of commerce by its discoveries, or accompanying the explorer in his path, as the encourager of education and science, or the handmaid of the Gospel of Christ? As science has unfolded the laws of life and health, that of hygiene has spread its benign influence; as the laws of morbid action have become more fully known, the causes of disease have been averted.

To the minister of religion it is the foreshadowing of his message of mercy. Such was the work of the Great Physician; and those, I humbly think, most closely follow His example, and occupy the highest place amongst us, who, whilst seeking to heal disease, are the messengers of His Grace; who give up home and country, friends and advancement in this life, that they may be the means of restoring health, and at the same time point out the greater spiritual remedies which, by divine revelation, have been made known to us.

In these views of Medicine we have referred to its relations *beyond* man himself, as well as to its intrinsic relation *upon* himself. The former is often only thought of; the latter passed by. Honour and wealth are poor attainments when compared, not so much with the external and general benefits, as with the internal and personal. “The full and harmonious development of our faculties is the high and natural destination of all,” says a profound modern writer.* The mental exercise in the pursuit

* Sir William Hamilton.

of truth is a superior end than the attainment of that truth. The study of Medicine opens to you a wide field of thought ; the knowledge of many facts is required : truth is sought out, that it may be applied in beneficent action ; but the mental exercise thus called forth gives mental strength and vigour. Man is raised to a higher standard ; and in accomplishing this, the Medical profession stands pre-eminent. The writer just quoted says : “ A truth once known falls into comparative insignificance. It is now prized less on its own account than as opening up new ways to new activity,—new suspense, new hopes, new discoveries, new self-gratulation. Every votary of science is wilfully ignorant of a thousand established facts ; of a thousand which he might make his own more easily than he could attempt the discovery of even one. But it is not knowledge, it is not truth, that he principally seeks ; he seeks the exercise of his faculties and feelings ; and as in following after the one he takes a greater amount of pleasurable energy than in taking formal possession of the thousand, he despairs the certainty of the many and prefers the chances of the one. Accordingly, the sciences always studied with the keenest interest are those in a state of progress and uncertainty. Absolute certainty and absolute completion would be the paralysis of any study ; and the last worst calamity that could befall man, as he is at present constituted, would be that full and final possession of speculative truth, which he now vainly anticipates as the consummation of his intellectual happiness.”

Such sources of intellectual advancement are presented to you in your Medical career, not terminating with your studies here, but inviting you onwards in a constant progress. Seek not only to store your memories with the facts which will be presented to you, but strive to attain habits of thought and of vigorous mental exertion. This must be your own work. Every man is in this sense self-educated—he must use his own faculties, and exercise his own mind in this labour. Objects will be placed before you, guides be at your side ; but the work must be your own ; and the reward in your mental attainment is certain.

Among the arts and sciences, that of Physic ranks with the earliest ; and amid the crude theories of the early schools we find many accurate observations, many things that are true of disease

now ; and many of the agents then used are still considered of value.

Medicine has been influenced, at every period of its history, by the condition of science generally at that particular time. In every country, as mind has extended its power and science advanced, they have reacted upon Medicine and borne it along. No science moves onwards single-handed. “Men are as the time is.” The thoughts of leading minds cast their light or shade into every science. If superstition and credulity prevail, the facts of Medicine and its allied sciences are explained by the wildest notions. The philosophies of Greece and Rome extended their mysticism to Medicine, and checked its advance ; the high esteem of the gymnasia modified remedial agents ; the bondage of the schools which existed at the time of Galen, led to his suppositions ; and so at each succeeding period.

During the Middle Ages science generally was shrouded in darkness ; alchymy and astrology exerted their baneful influence. As science revived and truth dawned in later days, the facts of anatomy were more clearly made out, physiology and the symptoms of disease explained, and last of all, that of therapeutics improved. The giant strides made by Sir Isaac Newton reacted on Medicine almost as much as the discovery of Harvey. The mind of Sydenham was influenced by the character of the philosophy of his day ; for Bacon had prepared the way. A general awakening in other sciences was at work when the brilliant talents of Hunter broke forth ; chemistry and astronomy were making rapid advances at the same time. In our own day observe the unsparing manner with which the records of the past have been scrutinised ; an almost ruthless hand tears aside the pleasing pictures of bygone ages, and the twilight of history disappears before modern light. The fundamental ideas of every science have been shaken and exposed to the full light of modern research ; and as each one has arisen from the trial, it has become established on a firmer basis, and has even invited the keenest minds to remove every vestige of error, that truth might alone remain. All this could not take place without the facts of our science being subjected to the same investigation : beautiful theories have been found to rest on insufficient data, and sometimes the whole fabric has appeared to totter. Wherever scepti-

cism has prevailed, Medicine has been assailed; and scepticism with credulity give birth to a numerous progeny: at our own time it is far easier to invent the wildest notions suited to the ignorance of an uninquiring mind or superficial imagination, than carefully to investigate truth; it is easier, and to some more pleasant, to join in the popular outcry and receive the glittering bait, than, seeking to remove error from truth, establish the science of Medicine on a right basis. The facts of our science will bear as searching an ordeal as any; the truth never shrinks from examination, but invites the most rigorous investigation; *that* truth will continue; but, whilst the human mind is constituted as it now is, ever ready to receive as true that which it can appreciate without thought or research, so long will Medical science be surrounded with an incubus of error, and drag along with it as its own the imperfections of its members, and whatever its friends or opponents choose to affix to it.

The development of general laws has enabled some sciences to lay aside the encumbrances of earlier periods. The knowledge of the law of gravitation served to establish astronomy on a sure basis, and the errors of ages vanished. So with chemistry—the discoveries of Priestley, of Cavendish, of Sir Humphrey Davy, of Dalton, Graham, Liebig, and others, of the laws of chemical equivalents and atomic weights, of the diffusion of gases, of the modes of analysis, and forms of proximate combinations, have set aside the fruitless labours of alchymists; and every new investigator finds a firm basis on which each fresh increment of truth has its right place. But, whilst we have many facts, and laws which are established as firmly, they are of less general influence; and are so modified, that we can scarcely aspire to the exactitude of many sciences. It is too true, that a train of old theories clings to us, like a venerable edifice with its ivy mantle, the occupants of which almost shrink from any disturbance of its old clad walls. We perpetuate the exploded theory of phlogiston in our antiphlogistic remedies; and the venerated ideas of inflammation sustain many rough shocks, but still survive.

Modes of thought and research receive the impress of national peculiarities; and in individual investigations, the characteristics of each mind are manifested.

The impress of the German character is found in its profound and laborious labour ; the scepticism of the earlier French philosophy was shown in rejecting the writings of the past, refusing to be bound by their authority, unless the facts were sustained and sanctioned by actual experiment, borne out by personal experience, or capable of demonstration ; hence arose the school of which Louis was so distinguished a member ; the study of pathological facts was pursued with intense earnestness, observations were recorded, comparisons made, and the value of statistics received their due estimate. This positive method has been of as much service in Medicine as in other sciences ; it has reacted upon our own country, and pathological researches have been justly considered as the best guide to advancement in practical Medicine. So also with individual minds ; some in patient research are content to find facts and afterwards educe the general law : others are too apt to risk the general law, and then try and establish it by seeking for facts on which it may rest ; the former in patient labour secure a firm foundation, the latter raise the superstructure, and do their utmost to prop it up, sometimes by strange devices. Not one fact alone, nor a few statistics, often of unsound components, are sufficient to establish a general law. Each mind must, however, work in its own manner ; but you may save much useless labour, if you will form a definite purpose and follow a right plan. I hope each one of you will so labour, that your toil may not be unrequited.

Be on your guard against a form of *spurious inductive philosophy*, mere *false statistics* ; they may lead you into the strangest mistakes, for things most diverse are placed together, and facts made to tell an incorrect statement. Unfortunately, the careless manner in which they are now prepared, is doing great injury to our science ; and may require infinite labour to undo their mischief, and show their falsehood. Of what value are statistics of causes of death, unless there be careful visual examination ; simple catarrh, bronchitis, pleurisy, struma, peritonitis, pyæmia, fever, are all oftentimes called inflammation of the lungs ; and fever, consumption, diarrhoea, are equally convenient appellations. The numerical method of developing general facts, depends entirely for its value on the accuracy of its components. When rigid examination scrutinises every part,

statistics may be of great value; yet we must bear in mind, that some who speak most strongly against them, are their servile followers, only adopting a less certain plan—that of trusting to the memory, which from its imperfection regards a few instances as a constant rule, and arranges as identical, things which have only some points of resemblance. Observe, and record your observations; but observe rightly, and record faithfully.

As a science, Medicine is peculiar: it is *not one science, but many*; the human frame in its vital manifestations presents us with varied physical forces, harmonised and beautifully fulfilling one purpose. These allied sciences will be your subjects of study, and the more deeply you investigate them in connexion with anatomy, physiology, or therapeutics, the more you will be amazed at the perfection of the mechanism. The forces of *mechanics* and *hydrostatics* are in constant operation; a beautiful water-bed protects our large nervous centres; valves regulate the course of the circulating fluid; the flexure and arrangement of joints, curvature of bones, the restraining power of ligaments, break the force of mechanical violence; some of the greatest advances in engineering science, as for instance the Tubular Bridge, have long had their counterpart in the long bones of our limbs; and if you would practise your profession successfully, you must bear these forces in mind.

Another handmaid science is *Chemistry*; constantly at work in the performance of the varied functions of life, it is modified and restrained by living action or force. Chemistry has done much in unravelling facts, which had been ascribed to an unknown vital power; as, for instance, in explaining the process of digestion; and advances will probably be made in comparison with which our present knowledge is only rudimentary; as yet, organic chemistry is only in its infancy. Has it told us the difference between fibrin and albumen? how many organic substances can it produce? Can it recombine the starchy elements of a seed, so as to produce a living organism? We cannot make a greater mistake, than to suppose that chemistry is life. Study chemistry earnestly and well; apply its searching investigation to the facts of physiology; you will probably add to our stock of knowledge, and bring from the domain of ignorance, facts readily explained; you will practise your profession with

greater comfort, efficiency, and skill. Chemistry has done much for the investigation of disease ; and has assisted, perhaps more than any other science, to remove the débris of accumulated ages, and give a healthy tone to the study of life and health, as well as of disease.

The polar forces, *electricity* and *galvanism*, are also in operation, but neither are they life ; whatever may be their alliance with our nerve force, they are not identical with it ; however correlated, an electrical discharge does not obey the laws of nervous action. No arrangement of telegraphic wires, no mechanism of mere force, could invent the words which they transmit. No analysis of that telegraphic power, no chemical investigation of the wire, would explain the message ; so also no depth of chemical research, no extent of anatomical skill, will ever suffice to explain the action of living power, or produce organized structure. We might as soon expect the microscope to reveal the words in the particles of iron, as to find the stores that memory records in the atoms of the brain.

“ What man holds of matter does not make up his personality. They are his, not he ; man is not an organism, he is an intelligence served by organs.”

Remember, then, that we have to do not only with external forces, but with a force more wonderful than all—that of mind ; in many other sciences, we observe no creation of new force, but its disturbance, readjustment, quiescence ; in mind alone do we find a creation of new force. It is this relation of mind with our framework that renders the observation of many facts of physiology, as well as of disease, so uncertain and obscure. The same cause, doubtless, everywhere produces the same effect ; but how difficult to ascertain similarity of cause, when a hidden influence, such as mind, exerts a power utterly beyond our observation. Several persons are exposed to the same miasmatic influence ; one contracts ague, a second pneumonia, a third is unaffected ; again, the same medicine acts differently. I have known two table-spoonfuls of water to purge violently, because the patient believed active medicine had been taken. How difficult, then, is our labour, where it has fallacy at every step ! With what care should we advance any new idea ! What precautions ought we to use, lest we suppose the effect is due to

a cause with which it has no connexion ! Volumes of imaginary facts disappear because now known to be unfounded ; but they may have misguided the student, even when ardently in search of truth.

The complete knowledge of the mechanism of our bodies, the forces which govern their harmonious action, and the laws of their disturbance, are objects of your study, and demand your closest attention ; but let not their research lead to the supposition that they comprise man's totality. Truly mind acts by means of a mechanism, and the imperfection of that mechanism leads to imperfect actings of the mind itself ; but some suppose that man is impelled to act merely by the physical conditions of his frame—that the actions of many are so determined we find in disease, in which case wrong deeds are without guilt ; but the conflict every thinking man sustains, the necessity of opposing and withstanding his natural impulses, his personality and acknowledged responsibility for right action and thought, prove that man is more than a living machine.

You may know every disease, apply every remedy in a correct manner, leave no application unused which could be of service, and be unsuccessful ; from the fact of your having only regarded the mechanism, and forgotten the more powerful influence of your patient's mind. Rightly to apply our science, it must be associated with the knowledge of mental actings, and with the application of that knowledge. It is experience in this particular, especially when having to do with mind acting through a diseased body, which unfortunately enables some, nay many, almost to dispense with the knowledge of the mechanism itself ; it is this which opens wide the field to all forms of empiricism and quackery. Emboldened by ill-gotten success, men soon despise the knowledge of which they are ignorant. *Your* regret will never be the great extent of your acquirements, but rather the little that you know as compared with the greatness of what remains unknown. Sound knowledge leads to honest and right practice ; but ever remember that you have to do with thinking beings. Anxious forebodings, the daily cares of life, the competitions of a restless struggling age, are amongst the commonest causes of disease ; fright and alarm, fear for the present or for the future, are well known in their effects ; and

again, mark the difference in the progress of a patient's malady whose mind is at rest—at rest in relation to time, and to its higher responsibilities—with one whose mind is disturbed and anxious by night and by day, to whom pain is light as compared with his mental workings ; and he can best fulfil his daily mission who can point to a balm that will heal the diseases of the soul, whilst he administers relief to the sufferings of the body. All that is comprised in man's entire nature, both physical and psychical, all that influences that nature in normal or perverted action, and all that can restore or alleviate in conditions of disease or suffering, are within the range of your study.

In a profession thus extensive in its sphere and requirements, the constant exercise of all your mental powers is demanded. What is the best mode of commencing its study ?

Do not undertake too much at once; and whatever you do, do well. To try and do too much at once is a mistake very often made, both by the earnest and thorough, as well as by the superficial student. He seeks to study medicine, surgery, anatomy and chemistry, to go round the wards, attend every lecture that is given—all in the first few months after his entrance ; the result being that he learns very little, and that superficially. It is well for a student to devote his attention almost exclusively to those sciences which are rightly regarded as the bases of his knowledge, and to reserve for later years more practical subjects. It is always matter of regret to me to see the extensive and incomparable sources of observation at Guy's neglected by a student during his third year of hospital study, for those which were the proper work of his first year ; and at a time when the clinical wards, the duties of a dresser, and the examinations after death might be affording to him invaluable practical information, he is occupied in the attempt to recover time misspent, and in cramming into his mind a certain amount of botany, chemistry, and the elementary details of anatomy. Recent changes in the examining boards will in some measure counteract this error ; and it is one of the advantages accruing to those who follow the course laid down by the University of London, namely, that of appropriating two years to the study of anatomy, chemistry, *materia medica* and botany ; and two subsequent years to that

of medicine, surgery and midwifery. I hope very many of you will follow the example of those who this year have merited the just commendation of their teachers. The voluntary examinations which it is proposed to hold at the close of each summer session, will be guides to you, whilst they are an encouragement to study perseveringly and well, and will constitute laudable sources of emulation. During your first session, then, let me urge upon you to devote your time to anatomy, physiology, and chemistry ; and in the summer to *materia medica*, practical chemistry, botany, and midwifery. Anatomy and physiology are the bases of your professional knowledge. No time devoted to the acquirement of thorough anatomical knowledge is lost. Be very diligent in your dissecting-room work ; investigate for yourselves, test your books, be accurate in all your observations. Some fear lest they should acquire a knowledge too minute of nervous filaments and arterial anastomoses ; with a derisive, pitying, and half contemptuous sneer, “ they are minutiae, not required by the practical man ; ” but if you know your anatomy exactly, thoroughly, and by your own dissections, although many facts will in all probability pass from your minds, the essential parts will still remain ; and in future life such a labourer will have the superiority and be really the practical man. In almost every disease or injury, anatomy will afford some of the great landmarks to guide you in diagnosis, and save you from error. A man is affected with hoarseness, and many may be content to treat the symptom alone, regardless of its cause and strict pathology ; another finds that the recurrent laryngeal nerve, as it passes over the aorta, has become compressed, its function destroyed, and the voice affected : that aneurism is the cause of the diseased larynx. What a superiority and confidence such knowledge imparts ! What light does it afford in diagnosis ! and what a guide to judicious treatment !

To aid you in your anatomical study, Guy’s offers to you the help of an invaluable series of models—beautiful as works of art, but still more so as faithful representations of our framework in all its parts—copied from the careful and arduous labours of Mr. Hilton. Having dissected for yourselves, they will present to you the relation of parts which you could not obtain in your short

period for dissection ; they will refresh your minds, guide you in reading and in re-thinking over your work ; but do not rest upon them alone—for such a purpose they were never designed. Use these models as helps, but not to relieve you from labour which you must yourselves perform, if you would ever understand and remember anatomy.

Chemistry will be a most valuable aid in your study of physiology, pathology, and *materia medica*. Learn well its principles during your first winter ; and in the summer, as far as possible by practical demonstration and analysis, endeavour to perfect yourselves in your chemical knowledge.

The study of Botany will claim your attention during your first summer-work ; if you regard it as a compilation of hard terms and of useless labour, you will find no interest in it ; but if your mind really searches into its truths, you will find its study full of interest ; the laws of vegetable life and growth will reflect light on human physiology ; and it may aid you, both in the quest of pleasure and the search for means of cure.

Materia medica and the elements of Therapeutics will also be part of your first year's study. The elementary knowledge of chemistry and of botany will assist you ; but do not suppose for a moment that the only agents you have for the treatment of disease are confined to the drugs of the *Pharmacopœia*. The air, the diet, the external conditions of your patient, are amongst the most important remedial agents. Know well the action of varied remedies, their composition and characteristics, their applicability under varied circumstances ; but do not rely on medicine alone. To surrender other agents is to give the most powerful means at your disposal into the hands of ignorant and spurious pretenders of science.

Having thus spent your *first* year, you will be well prepared to give your second and third years to the study of medicine and surgery, pathology, midwifery, and medical jurisprudence, and the further study of anatomy and physiology. In your second year, then, go on with these latter studies ; and whilst you attend lectures on medicine and surgery, avail yourselves of the invaluable resources which the wards of Guy's afford ; study for yourselves at the bedside of the patients ; carefully record the symptoms of disease ; seek the direction of those with whom

you go round—aid more willingly rendered than sought for ; and do not be content till you know all that can be known of each instance before you. Watch the patients daily ; and if, as must happen, many diseases are beyond human skill, follow them to the pathological inspection ; compare, as far as time will allow, your observations there with the vast pathological stores in the museum. This practical study of disease will write on your memory, in indelible lines, the first principles of Medicine. Take ward clerkships in medicine and surgery (they are of more service to you in your second than in your first year), and fulfil their duties scrupulously and well ; their value will be best known to you, when beyond your reach. These things, and the practical attention to midwifery, medical jurisprudence and toxicology, will more than suffice to fill up your time for study and work. If only three years be afforded you for your stay at the hospital—too short a time to master, barely sufficient to sketch the work before you—devote the third year solely to the further study of practice. If industrious you will obtain clinical clerkships, dresserships, or obstetric clerkships ; work more thoroughly and closely in the wards and in the post-mortem rooms. The sources of observation will spread out before you ; opportunities for investigating diseases of the chest, as great and better than in special hospitals, diseases of the skin or of the eye, diseases of children, in fact every section of practical knowledge less vaunted, but not less carefully explored and treated for the benefit of the patients and your advantage. Be accurate and thorough in all that you do ; and when you leave Guy's to enter upon the anxious and arduous duties of practice, though you will only have learned some of the broad outlines, you will know how to continue your studentship ; and your mind, tutored to active exercise, will yearly, nay in ~~every~~ every case you observe, fill in the facts of science ; and you will become a useful and honourable member of your profession.

Let me add another maxim, *have self-reliance* ; be humble-minded observers, but think for yourselves ; use all the aids that others can afford, but make the knowledge your own ; then only will you be likely to use it to your own comfort and the benefit of others.

One other suggestion I wish to add ; combine them all, and I have no fear but that you will be zealous students and successful men. *What you undertake do well ; have self-reliance ; and maintain a good conscience in the sight of God and man.* To study well, maintain a consciousness of the dignity of your own character ; sterling morality affords a man a superiority which a poor slave of vice and sin can never have. Can your mind exert its undivided energies, if your heart and conscience be ill at ease ? To be happy, you must be in harmony with the Author of your being ; break His laws, the laws under which you are placed — the laws of your being, and from which you have no escape—and the penalty rests upon you. What is Accident ward but an indication that we are placed under physical laws, which cannot be infringed without speedy suffering ? The action of fire and the violence which breaks a limb are not more certain in their consequences (nay, even less so), than are the moral laws of our nature. The result may often not be so speedily manifested, but the injury to a man's nature is deeper and more lasting ; and its consequences will be inevitable. The virus of sin works out its own terrible end, which nothing but the Redeemer's blood can cancel ; and you, who devote your energies to the application of remedies for the diseases of the body, will do well to value that only remedy provided for the deeper diseases of the soul. True religion will not make you a less earnest or successful student ; it will impart vigour to your mind to feel in harmony with God as you investigate the most wonderful of His works ; it will be your safeguard under innumerable temptations ; and if suddenly taken away, like one who last year attended in this theatre with as buoyant hopes and anticipations as yourselves, it will be your inestimable gain.

You will require mental as well as physical recreation ; the stores of literature are open to you ; poetry and science, the stirring events of our own day or the histories of the past, invite your attention. You may occasionally be enlivened by the lighter efforts of imaginative genius, and still more by contemplating works of art ; from all these, if used aright, you will return to your own labours with fresh energy ; but let them not

divert your minds from the purpose before you, or rob you of your reward. So with physical recreation ; it is essential and necessary for you ; but the requirements of health will not draw you from *any* duty, and let *duty* be paramount in its obligation.

Do not forget the responsibilities of association ; the mutual influence you exert one upon another will be experienced by you, whether you deny its importance or ignore it altogether. The most powerful things in nature are silent in their operation ; but irresistible in their effects. So is the influence of one mind upon another ; the pleasures of companionship enhance those of your student's labour, and mental affinities will bring you into closer bonds. An idle student is a bane to all around him ; a superficial one may do injury to many ; a thorough worker not only finds a pleasure in his own work, but perhaps, without intending it, he helps all his fellows. They cannot avoid that influence, the most powerful of all, namely, that of action, but are drawn in spite of self ; others are induced to work, to observe, to learn ; and a great reward that this industry and energy of purpose affords is that the possessor is a blessing to those around him. The reflection would be an intensely painful one, that a man had been the means of injuring the bright prospects of his friend.

Seek companions that are real workers, and you will be a mutual help. Choose for associates those in whose character you have confidence ; true, sincere men. Let your conduct be such that you are not afraid of your *own* companionship, the speaking of your mind and heart to yourself. Have the fear of God continually before you, and make His "word the lamp unto your feet and the light unto your path ;" for "by humility and the fear of the Lord are riches, honour, and life." If this be your course, you will have the esteem of your seniors, your brightest anticipations will be realized, and Guy's will think of you with affectionate interest, wherever your lot may be. With the hope that your career may be a happy and a successful one, we welcome you amongst us ; and in my own name, and that of my colleagues, I offer you our good wishes, and our willing help.

[*To the Treasurer.*] I am indebted to you, Sir, for your presence with us to-day, for the interest you have ever felt in this

Medical College, and of which you have given us substantial proof. We believe that we may always look for your support, and that of the Governors, in every effort for its advancement ; for the efficiency of the Hospital will ever be measured by the success of our School.

ON
DISEASES OF THE ALIMENTARY CANAL,
ŒSOPHAGUS, STOMACH, CÆCUM,
AND
INTESTINES.

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